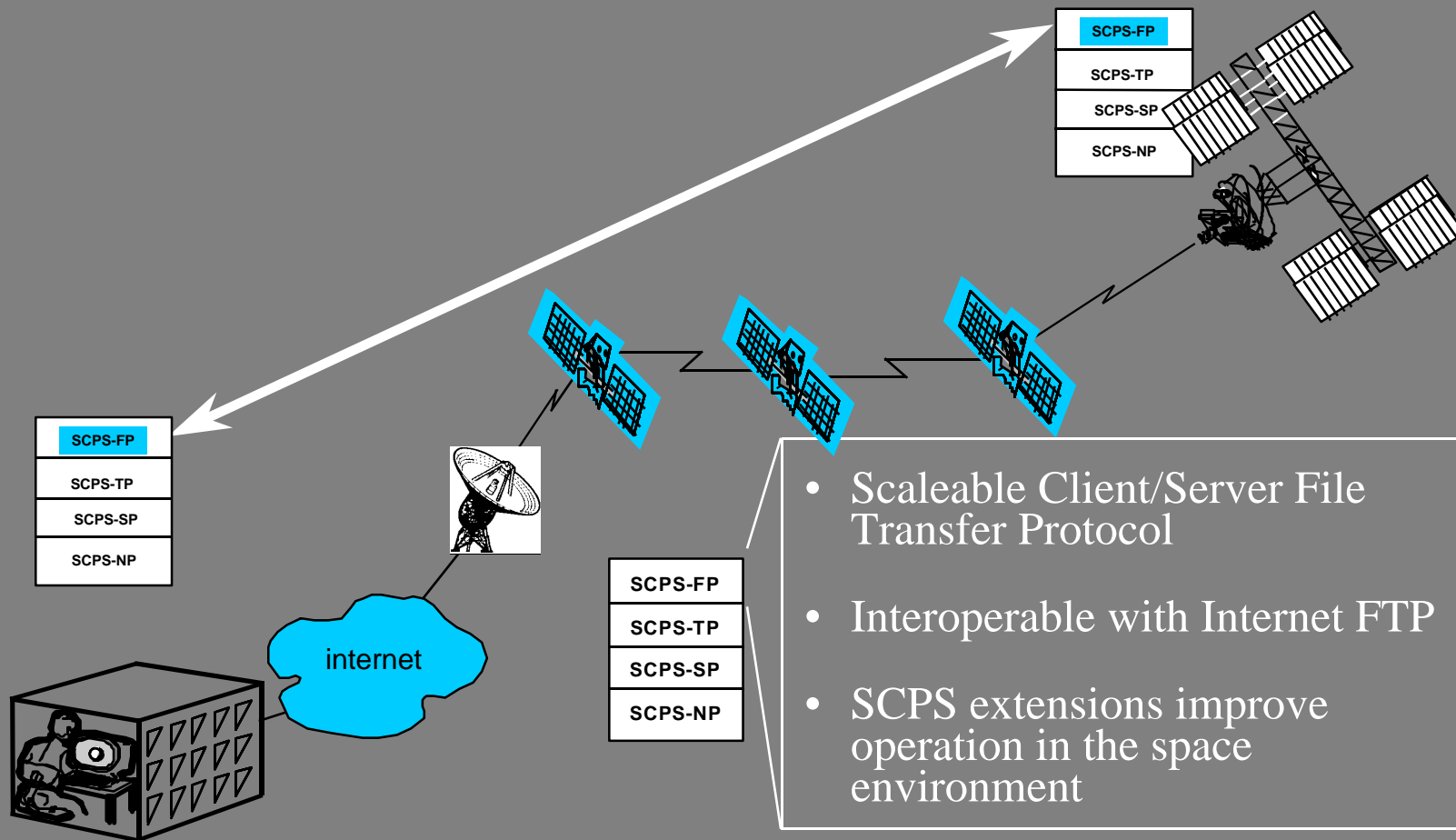


The SCPS File Protocol (SCPS-FP)

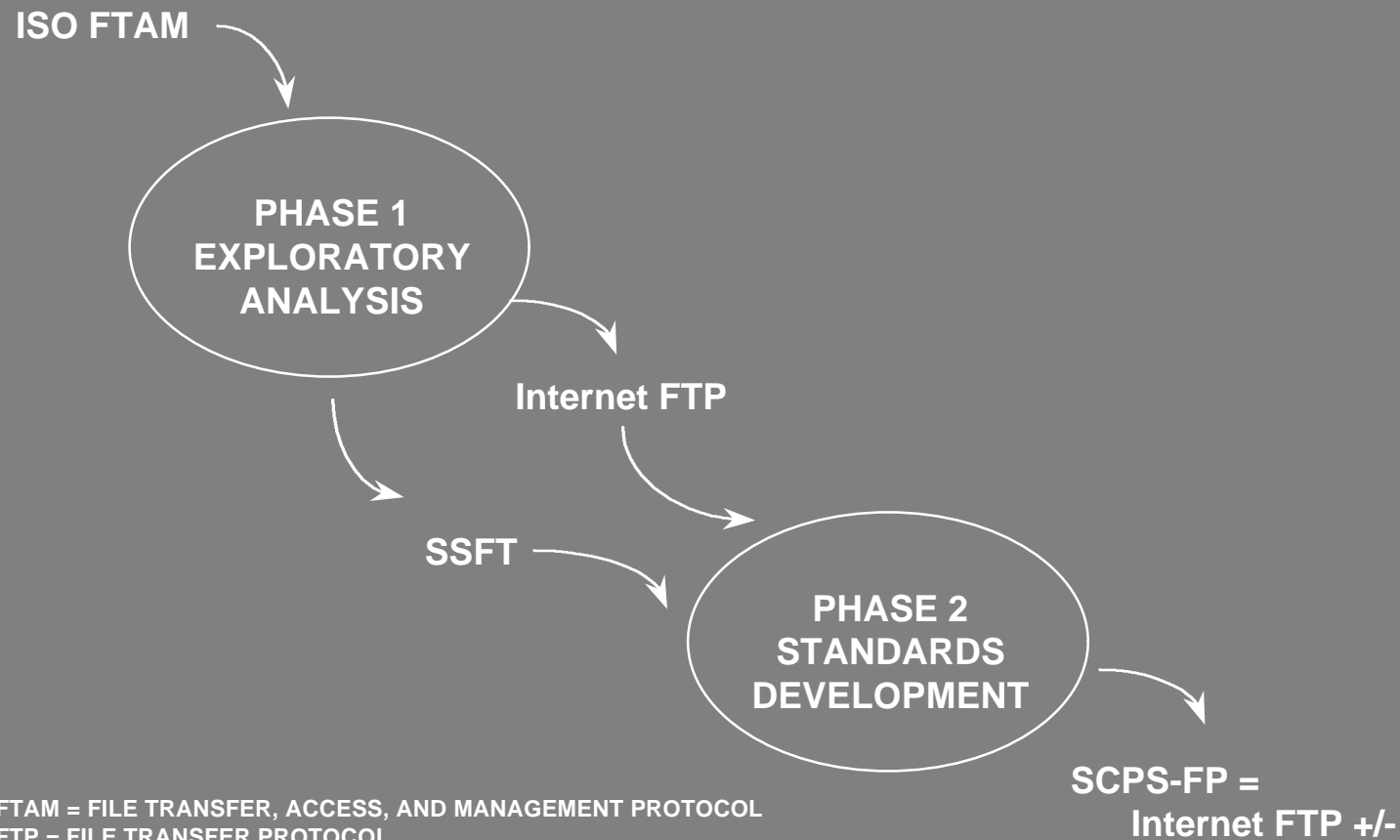


Requirements for File Transfer Identified by 1993 SCPS Exploratory Study

- Transfers of command and data files up to spacecraft
- Transfers of application software to spacecraft
- Transfers of science or mission data to the ground without special level zero processing
- Limited management of files on board spacecraft (move, delete, rename)
- Read portions of files resident on board spacecraft
- Make updates/changes to files on board spacecraft



SCPS-FP Evolution



FTAM = FILE TRANSFER, ACCESS, AND MANAGEMENT PROTOCOL

FTP = FILE TRANSFER PROTOCOL

SSFT = SPACE STATION (FREEDOM) FILE TRANSFER PROTOCOL

SCPS-FP = SPACE COMMUNICATIONS PROTOCOL STANDARDS - FILE TRANSFER PROTOCOL



Factors affecting space based software

- Small amount of software RAM by terrestrial standards
- Server often (by terrestrial standards) unreachable by client due to orbit
- Low reliability of file store by terrestrial standards
(The file store or spacecraft may occasionally introduce errors in the file.)

SCPS FP Base Configuration

- Commands
 - Establish and terminate an FP session
 - Forward (put) and Return (get) file transfer
 - Local help
 - Record read
 - Record update
 - Manually abort of file transfer
 - Manual interrupt
 - Manual restart
 - Automatic restart
 - Execute remote site-specific command, to get the CRC of a file, for example
 - Delete
 - Get file size



Default Values

Transfer Mode: Stream
Transfer Type: Image/Binary
Data Structure: File
Reply Text Suppression: Enabled
Autorestart: Disabled
Max Automatic Restarts: 3
Idle time-out: 300 seconds
Use of PORT Command: Enabled
BETS: disabled
BETS Fill Code: 255

